Title: Construction kit

Field of the invention

This invention concerns construction kits, typically but not exclusively in the form of toys or playthings.

Background

Kits made up of a large number of similar parts which can be assembled to form models of buildings and other structures are known. Some have relied on a water based adhesive or cement to bind miniature building blocks in the form of brickwork. Others have employed plastics bricks adapted to slide between upright metal rods which hold the bricks in place and are hidden by the edges of the bricks when the latter are stacked one upon another between the rods. Construction kits have relied on nuts and bolts to hold together pre-formed metal components and one of the most popular kits sold under the trade name LEGO has relied on resilient engagement of generally cylindrical spaced apart upstanding protrusions on one face of a brick-like component in a recess or cavity in a face of another similar component, each component being provided with opposite faces bearing the upstanding protrusions on one face and providing the cavity or recess in the opposite face, so that components can be stacked one on top of another. However the number and spacing of the protrusions limits the number of ways in which such components can be arranged relative to one another, and the components cam only be arranged one above another, whether staggered or aligned.

It is an object of the present invention to provide a modelling kit in which the component parts can be readily formed from plastics materials, if desired, by an injection moulding process, but which can be fitted together in a larger number of different ways, relative to

the restricted number of ways in which the component parts of some of the earlier constructions kits can be assembled.

It is also an object of the present invention to more readily allow structures to be built up which do not have simple 90° corners, but when viewed in plan have multifaceted corners, such as one, two or three faceted corners, in which each corner is composed of one, two or three wedges, each subtending an angle of 90°, 45° or 30° respectively.

It is also an object of the present invention to provide a construction kit in which the basic building blocks are adapted to have readily fitted thereto co-operating parts such as cladding panels, roofing structures or canopies, and seats and advertising hoardings, as in a model stadium.

Summary of the invention

According to one aspect of the present invention there is provided kit of parts forming a construction toy comprising a plurality of building blocks of differing length and shape and a plurality of pegs for joining blocks together and to other items such as a base for creating structures, and comprising a basic block in the form of a cube and all larger blocks are whole number multiples of the basic block, so that the length dimension of each larger block is equal to a whole number multiple of the edge length of the basic cube block and the cross section of all blocks is the same and corresponds to the square face of the basic cube block, so that each larger block is a K-element block where K is the number of cube blocks which will make up the longer length of the larger block when laid side by side, and the basic cube block includes a single opening centrally of each of its faces for receiving a peg and each of the other blocks has a single opening centrally of each end face thereof for receiving a peg and all the peg receiving openings are the same size, characterised in that in one of the side faces of a K element block there are K equally spaced apart peg receiving openings and in an adjoining side face thereof there are (K - 1) equally spaced apart similar peg receiving openings.

Blocks may be constructed in accordance with the invention in which the or each end face is inclined to some of the sides so that the block comprises a solid trapezium. Typically both ends are so inclined and preferably both are inclined by the same amount so as to form a so-called regular solid trapezium.

The acute angle between the or each end and one of the parallel sides may for example be 75°, 67.5°, 60° or 45°.

Thus if placed end to end with a similarly shaped block, the length dimension or axis of one block will subtend an angle of 30°, 45°, 60°, 75° or 90° to that of the adjoining block.

Different angles between adjoining blocks can be obtained by placing end to end trapezoidal blocks having inclined end faces, or the square end face of a standard rectilinear block in contact with an inclined face of a trapezoidal block.

According therefore to another aspect of the present invention there is provided a kit of parts forming a construction toy comprising a plurality of building blocks of differing length and shape and a plurality of pegs for joining the blocks together or to other members such as a base for creating structures, wherein each block has similarly proportioned side faces and two similarly proportioned end faces each of which includes at least one opening therein for receiving a peg, some of the blocks have one opening centrally of each face and others have N spaced apart openings in one side face and (N+1) spaced apart similar openings in an adjoining side face thereof, where N is a whole number equal to or greater than 1, and wherein the openings in the side faces are the same size as the openings in the end faces and are also for receiving pegs, characterised in that the or each end face of each of some of the blocks is inclined to at least some of the sides of each such block, to form a solid trapezium or wedge, so that if fitted end to end with other blocks, a corner can be constructed.

Both ends of some of the blocks may be inclined.

Both inclined ends may be inclined by the same amount so as to form a so-called regular solid trapezium.

According to a further aspect of the present invention there is provided a kit of parts forming a construction toy comprising a plurality of building blocks of differing length and shape and a plurality of pegs for joining the blocks together and to other items such as a base for creating structures, wherein each block has similarly proportioned side faces and two similarly proportioned end faces each of which includes at least one opening therein for receiving a peg, some of the blocks have one opening centrally of each face and others have N spaced apart openings in one side face and (N+1) spaced apart similar openings in an adjoining side face thereof, where N is a whole number equal to or greater than 1, and wherein the openings in the side faces are the same size as the openings in the end faces and are also for receiving pegs, characterised in that at least some of the pegs are supplied in long lengths which are provided with half-cuts at equally spaced apart points along their length to enable them to be cut or broken into lengths to suit the block or blocks into which they are to be fitted.

The following preferred features of the invention may apply to any kit of parts as aforesaid.

The pegs may be formed from a material which is more resiliently deformable than the blocks

The pegs may be formed from a rigid material and the material forming the blocks is sufficiently resiliently deformable to allow the pegs to be forced into the openings in the blocks.

The pegs may be formed from a material which can be bent to form a knee or elbow, and which is sufficiently stiff that it will remain bent.

The pegs may be formed from rigid material and are formed with a knee or elbow between two straight ends adapted to be pushed into openings in blocks, so that if the two straight ends are pushed into openings in a pair of blocks, one block will be angled relative to the other by an angle determined by that of the knee or elbow in the peg.

The pegs may be formed from a rigid material and are of generally circular cross section and all have the same diameter, and the openings in the blocks are constructed so as to have radially inwardly protruding teeth in the form of an internal gear wheel, and the pitch diameter of the inwardly directed teeth is substantially the same as the diameter of each peg, so that the latter is held firmly by the teeth when pushed into the opening.

In this latter case each peg also may be formed with at least one axially parallel radially protruding rib to engage between the teeth within the opening to resist rotation of the peg therein. Preferably two diametrically opposed such ribs are provided.

The blocks may be differently coloured.

One end face of each block may be differently coloured from the other end face.

The side faces of each block may be differently coloured one from another and/or from the end faces.

One or more faces of each of the blocks may be colour coded to indicate a specific function the block is designed to perform.

Side faces of the blocks having an even number of openings may be in one colour and side faces having an odd number of openings may be in another colour.

The colouring of one or more faces of the blocks may involve colouring the whole of the face or only a part of the face, or involve colouring only around the entrance to, or the interior of the opening or openings in the face.

Where blocks are designed to perform a specific function, they may be colour coded to indicate this. Thus for example, blocks specifically intended to be joined end to end may have a unique colour on each of their end faces to signify this. Likewise where end faces are inclined, differently angled end faces may be of different colours so that end faces which are similarly inclined (e.g. at 45°) will be all the same colour.

Advantageously side faces having an even number of openings may be one colour and side faces having an odd number of openings may be another colour. This will then facilitate the joining of blocks side by side, since a face having an odd number of openings, if arranged centrally of the faces (as is preferred), will have a central opening which will always register with the central opening in another block having an odd number of openings, whereas the converse is not the case where the faces have an even number of openings.

Advantageously a kit of parts forming a construction toy as aforesaid will include a large number of blocks and pegs and will include blocks of differing length and shape.

Where the block is cuboid or rectilinear and has six faces, the block may have openings in all six faces.

The pegs may be constructed from wood or metal or plastics or combinations thereof, and may be formed from plastics by injection moulding.

The blocks may be hollow.

Some or all of the openings can extend unobstructed from one face of the block to the opposite face, and elongate pegs are employed the length of which is sufficient to allow two or more blocks to be threaded thereon one after another.

Alternatively at least some of the openings in the blocks are blocked at a predetermined depth to form blind holes, so as to prevent a length of peg material from being pushed by more than that depth into the block.

All the openings may be blocked at a predetermined depth which is selected so that a peg can be pushed into every opening in a block without interfering with any other pegs already introduced therein.

The cross-sectional shape of each peg may be circular, so that when fitted into a block the block can rotate relative to the peg.

Alternatively the cross-sectional shape of each opening may be triangular, square, or hexagonal and similarly shaped cross section pegs are employed, so that the interengagement of a peg and a block will prevent relative rotation between the block and the peg.

The openings in the blocks may be triangular, square or hexagonal in cross section and two types of peg may be provided, one type having a cross section corresponding to that of the openings and dimensioned to just fit within the openings, so that when two blocks are joined thereby, no relative rotation between the two blocks can occur, and the other type having a circular cross section of a diameter such that the peg will just fit within the non-circular openings which will permit relative rotation between the two blocks if required.

The provision of different numbers of openings on different faces allows blocks to be arranged one relative to another in a number of different configurations.

Where the blocks are of square or rectilinear cross section (when viewed end-on) so as to have four similar side faces, openings may be provided in all four faces, and in a preferred arrangement the number of openings in opposite faces is the same, i.e. N openings on one pair of opposite faces and (N+1) openings in the other pair of opposite faces.

If blocks are of square or rectangular cross section, and are of the same length and joined face to face, overall rectilinear structures can be created in which all faces of the assembled array of blocks will be substantially flat and orthogonal.

If blocks (of the same or different length) are joined with side faces having odd numbers of openings in contact by using one peg to join the central opening in each of the two faces, the blocks can be angled one to the other about a common axis defined by the peg engaging the central holes in the two juxtaposed blocks. Where the blocks have two pairs of opposite faces with an odd number of openings in each face of one pair and an even number of openings in each face of the other pair a plurality of such blocks can be fitted together using the pegs in the central opening in each of the faces having an odd number of openings so that all the blocks are relatively rotatable about a common axis defined by the pegs.

The blocks may be constructed from wood or metal or plastics or a combination of any of the aforesaid, and preferably each block is formed from a plastics material by moulding, preferably by injection moulding.

Where a peg includes a knee or elbow bend its overall length is preferably increased since the angle introduced by the bend in the peg will prevent the two blocks from fitting together with their adjoining faces in contact, except possibly along an edge.

Thus pre-formed pegs having knee or elbow bends may be provided so that blocks can be fitted together so as to subtend predetermined angles according to the angle of the bend in the selected peg, or two blocks can be fitted together using a bendable peg to allow the angle between the two blocks to be adjusted to whatever is desired.

If the blocks are to be joined end to end using a bendable peg, the two ends of the latter may be inserted into the ends of the two blocks, and gripping the two blocks one in each hand, the peg can be bent into whatever angle is required between the two blocks.

A building, bridge or other structure such as a sports stadium may be constructed by fitting together blocks using pegs as aforesaid, and where a roof or other part of a structure is the extend at other than 90° to an adjoining part of the structure, angled pegs may be employed to join blocks forming the roof or said other part of the structure, to blocks forming the rest of the structure, or instead, or in addition, blocks may be employed in the roof or other parts having a solid triangular or trapezoidal shape with appropriately angled ends or side faces which are secured by conventional straight pegs to end faces or side faces of blocks forming the rest of the structure.

Where one or more corners of a structure (which when viewed from above is generally rectangular in outline) is to be formed by one or more intermediate sections which extends (or each extend) at less than 90° to the main sides of the structure, but in such a way as to complete the 90° change in direction from one side of the structure to another, the intermediate sections may be formed from blocks as aforesaid which are joined by pegs which are bent to provide the required changes in direction.

Thus if one intermediate section made up of (say) three elongate blocks end to end, is the extend at 45° from the end of one main side of the structure to the end of an adjoining side, the three blocks may be joined end to end by two straight pegs, and the ends of the assembly of blocks joined to the ends of blocks forming the main and adjoining sides of the structure using pegs having 45° elbow bends.

Alternatively a similar effect may be obtained by constructing the intermediate section from a straight block having square ends and two trapezoidal blocks each having one square end and one 45° end, and joining the blocks together and to the square ends of blocks at the ends of the main and adjoining sides of the structure, using straight pegs.

Likewise where a roof is to extend at (say) 45° to the upper end of a wall made up of blocks as aforesaid, either 45° angled pegs may be employed to join the ends of square ended blocks to the upper face of the top line of blocks making up the wall, so that each roofing block extends upwardly at 45° to the wall.

Where the roofing blocks are to overhang the wall, the same 45° peg may be employed but this time rotated through 180° so that the end of the peg protruding from the top of the wall extends at right angles to the 45° roof line, and a roofing block is fitted thereto by inserting the protruding end of the peg into an opening in the lower side face of the roofing block (instead of into an end face thereof.

Where two 45° roofing blocks meet to form a ridge, the uppermost block of each of the runs of blocks leading to the ridge may be a 45° single ended trapezoidal block, with its square end joined to the next roofing block down, and the juxtaposed 45° trapezoidal ends of the uppermost blocks joined by fitting the opposite ends of a straight peg into the openings in the two 45° end faces thereof.

Alternatively square ended blocks may be employed, and the 90° channel between the adjoining square ends of adjoining pairs of uppermost roofing blocks may be infilled by laying square ended blocks end to end in the channel and joining them end to end, and side faces to end faces of the 45° run of roofing blocks defining the channel, using straight pegs.

Structures may be constructed in a solid format by packing blocks as aforesaid side by side and end to end with or without staggered bonding in the form of conventional brickwork, or may be used to create a framework of struts defining corners and intermediate verticals and horizontals all joined by pegs as appropriate, and if angled parts are required such as a pitched roof or the like, the framework is extended by struts at appropriate angles to the remainder, using bent pegs or trapezoidal blocks as appropriate, and cladding panels are provided having pegs protruding from the rear face thereof by which they can be fitted to the blocks making up the framework, or having openings therein through which pegs can be pushed to engage in openings in the side or end faces of blocks making up the framework.

One side face of each of some of the blocks may be left open, and a panel may be removably fitted to close the opening in each open side face of a block.

Two opposite faces of some of the blocks may be left open.

Some of the blocks may be constructed of clear plastics material to resemble windows.

The block cross section may be rectangular, triangular, trapezoidal or hexagonal, but is preferably square.

At least one of the side faces of each of some of the blocks may be curved.

Where the blocks are of square cross section it is advantageous if the smallest basic block comprises a cube and all larger blocks are whole number multiples of the basic block, so that the length dimension of each larger block is equal to a whole number multiple of the edge length of the basic block and the cross section of all blocks is the same and corresponds to the square face of each of the sides of the basic block. By constructing blocks in this way they can be abutted side by side, end to side, or end to end, and the faces of the abutting blocks which are orthogonal to the surfaces in contact, will be coplanar.

Preferably the smallest basic (cuboid) block is provided with one opening central to each of its faces.

Blocks of a different cross section, such as triangular, can be dimensioned in a similar manner, and the smallest block is then in the form of a wedge and includes openings central to at least some of its faces.

In general, when building elements are rectilinear it is only possible to create three dimensional structures with planar faces or faces which are stepped inwardly or outwardly by the elemental width of the blocks or a whole number multiple of that width.

However the provision of N openings along one face and N+1 openings along an adjoining face of each block enables blocks to be positioned relative to one another by less than the pitch of the openings.

This is of particular advantage where the larger blocks have a constant cross section equal to that of the basic cube and are whole number multiples of the basic cube in length, and the pitch of the openings along the faces of the larger blocks is commensurate with the length of the edge of the basic cube, so that if a larger block is equivalent to 3 basic cubes in length, there are 3 openings along one face spaced apart by the length of the basic cube edge in a line parallel to the longer edges of the block midway of the width of the rectangular face of the block with the first and last of the openings in the line therefore separated from the end faces of the block by a distance equal to one half of width of the block, while along an adjoining face of the block there are two such openings spaced apart by a distance equal to the width of the block and each spaced from an end of the block by a distance equal to the width of the block.

Since each block (except the smallest) will have an even number of openings along one face and an odd number of openings along an adjoining face, in which the pitch of the openings along each face is the same, there is a phase difference of one half the pitch between the first opening in each line of openings and if two similar blocks are positioned side by side so that one of the abutting faces has an even number of openings and the other an odd number of openings, the openings will be aligned to allow one or more pegs to be inserted to join the blocks together, by sliding one block relative to the other through a distance of one half the width of the blocks. The step between the ends of the blocks, so formed, will then be one half the width of the blocks.

If smaller steps are desired, it is within the ambit of the invention to provide twice or three times (or more) as many openings along the same length of block (i.e. by increasing the number of N to 2N, 3N etc.) so that the pitch is now one half or one third (or less) the pitch of the openings if the value of N is related to the number of basic cubes making up

the length of the block. However, for most purposes it is considered that, if the basic cube is 10mm x 10mm x 10mm, then the 5mm step obtainable by using a 10mm pitch between openings, is sufficiently small for most modelling purposes.

Using blocks constructed as described allows a tapering stepped structure to be constructed by positioning successively shorter blocks one on the other with their faces containing odd numbers of openings uppermost, and positioning the blocks so that the central openings in the line of openings are aligned one above the other, enabling them to be secured by pegs as described. It is of course essential for this arrangement that all four side faces of each block have lines of openings and for opposite faces to have the same number and spacing of openings.

A particularly useful structure can be created using this principle if a base is formed by securing five 5-element blocks side by side to form a square, with the 5-opening faces uppermost, then positioning four 4-element blocks side by side over four of the 5-element blocks with their 3-opening face uppermost, so that the 3 openings align with the central three openings of the 5 openings below, then positioning three 3-element blocks side by side over three of the 4-element blocks with their 3 openings uppermost, positioning two 2-element blocks side by side over two of the 3-element blocks with the 1 opening face uppermost, and positioning one single element (basic cube) block centrally over one of the 2-element blocks with its single opening aligned with the single opening in the 2-element block therebelow. All of the blocks so arranged can be pinned by long pegs pushed through from top to bottom of the assembly, (or by separate shorter pegs between each layer of blocks) and if the side face of the last block in each layer is aligned with the corresponding side face of the block below, the opposite side face of the first block in each layer will be stepped back from the corresponding face of the block below by the width of the block, thereby creating something akin to one face of a pyramid albeit with the step size between the ends of the blocks in each successive layer being equal to one half of the width of the blocks.

If two such structures are created and each rotated and placed on a flat surface so that the aligned face of the said last of the blocks in each layer from the base of each structure, and the two structures are positioned and angled so that the right-hand ends of the blocks in one structure are just touching the left hand ends of the blocks of the other structure, the plane containing the right hand ends of the last mentioned structure will be perpendicular to the flat surface on which the structures rest and will also be substantially perpendicular to the corresponding plane containing the left hand ends of the blocks of the other structure.

Two such structures arranged thus can therefore constitute an infill between the square ends of two structures defining one side and one end of an enclosure such as a model stadium or open-air theatre.

Where the latter are tiered with each tier stepped back relative to the one below, the sides and ends can be constructed in a similar way to the infill structures except that all the blocks employed to create the stepped structure are the same length. Although it is possible to envisage using very long blocks, so that the sides and ends of a stadium are of unitary construction, it is envisaged that using a kit of parts for general modelling, long structures could be made up from a number of smaller similar structures arranged and, if desired, joined end to end to make up the larger structure. To this end the largest standard size of block may for example comprise a 5-element block (i.e. 50mm in length by 10mm x 10mm) and if the straight side (or end) of a 5-tiered stadium was for example to be 500mm in length, ten separate tiered assemblies of 5-element long blocks would be joined end to end to make up the 500mm run.

Different arrangements of infill wedges are possible, and in a particularly preferred arrangement three wedges are constructed, one comprising a tiered array of short blocks (e.g. one or two element blocks) so that its side faces are parallel and vertical (when placed on a horizontal surface) and two triangular wedges are constructed from blocks which increase in length from top to bottom and front to back.

A change of direction may also be accommodated by providing corner blocks which are formed from three similar sections each of which is angled by a small amount relative to the preceding section, so that the end faces of each block, instead of being parallel, are angled relative to one another by for example 22½°, or 30°, or 45°.

By providing a plurality of such corner blocks, of differing overall length but in which the central segment of each block is in the form of a cube or a rectilinear element of constant length, and the segments on each side of the cube are of equal length and equally angled relative to the cube, an array of such corner blocks can be fitted together in a tiered array to form an infill wedge such that two, three or four such wedges can be placed side by side to provide a complete corner assembly between two perpendicular lines of tiered assemblies having square ends.

Alternatively a wedge shaped corner infill may be constructed by using a plurality of regular trapezoidal blocks of differing overall size, the end faces of the trapezoidal blocks being mutually inclined at 22½° or 30° or 45°.

Blocks constructed in accordance with the invention may be in the form of bricks and may be differently coloured.

Blocks may be constructed of clear plastics material to resemble windows, or may be constructed with two opposite faces largely open to provide an opening. A window can then be inserted into the opening if desired or the opening simply left as such.

A kit may include cladding panels having pegs protruding from the rear face thereof by which they can be fitted to side or end faces of blocks.

Alternatively the cladding panels may have openings therein through which pegs can be pushed to engage in openings in side or end faces of blocks, for securing the panels to the blocks.

Pegs employed to secure a cladding panel to a block may have an enlarged head at one end in the form of a nail, which holds the panel captive between head and block.

A kit of parts as aforesaid may further comprise a flat base having therein a plurality of openings into which the ends of pegs fitted into openings in the underside of blocks and protruding therefrom, can be pushed, to anchor the blocks in position on the base.

Typically the openings in the base are spaced apart and positioned thereover so as to correspond to the pitch of the openings in the blocks so that more than one pin can be employed to locate a block in the base, if desired.

The openings may comprise blind holes in the base and the other face may be plain or both faces may be formed with openings with the pattern and positions of the openings different on one face from the other.

Alternatively the openings may comprise through bores from one face to the other so that the pattern and positions of the holes is the same on both sides of the base.

Line patterns pay be printed or engrave on one or both faces of the base indicating the outlines which particular structures which can be assembled thereon should follow, to facilitate the positioning of the first layer of blocks on the base.

Where more than one base pattern is provided on each face the different patterns may be printed, or otherwise formed, in different colours or are otherwise distinguishable.

The openings in the base may be positioned thereover so as to correspond to positions of a first layer of blocks to be positioned on the base to form a particular structure.

Line patterns may be printed or engraved on one or both faces of the base indicating the outlines of at least one structure which can be assembled thereon, to facilitate the positioning of the first layer of blocks on the base.

A kit of parts as aforesaid preferably contains a selection of blocks and pegs and a base to enable a sports stadium or open air theatre to be constructed by fitting together the blocks, and the blocks to the base, using the pegs.

Where tiered assemblies of blocks are arranged to form a sports stadium or open-air theatre, seats may be provided having pegs protruding from their underside or rear, for insertion into openings in the faces of the tiered blocks.

A kit of parts as aforesaid may further comprise model seats each having a peg protruding from its underside or rear for insertion onto an opening in a block. The seats may be individually formed, or constructed as joined up lines of seats.

The seats may be differently coloured.

By providing long lengths of seating which extend over two or more block lengths the fitting of the seats to the lines of blocks will further assist in tying together the tiered assemblies of blocks.

Whether individual or formed in lines, the seats may be differently coloured to allow for patterns to be formed by arranging appropriately coloured seats or lines of seats relative to one another.

The colouring of the seats may be by means of self-coloured material from which they are constructed or by means of self-adhesive coloured patches adapted to be stuck to the seats as required.

In addition to seating cladding panels may be provided for fitting to the front faces of the lowermost layer of blocks to simulate the advertising hoardings which typically are provided around the arena. As with the seating the cladding may be in lengths

commensurate with that of the blocks making up the tiered assemblies, or may be longer so as to encompass two or more such blocks joined end to end.

Cladding may be self-coloured or clear to resemble glass panels.

Self-adhesive stickers may be provided for sticking to cladding panels. These may have different designs, be differently coloured, and may depict pictures, windows, doors, architectural features and the like.

A kit of parts as aforesaid may therefore include cladding panels having pegs protruding from their rear for fitting to the blocks to simulate advertising hoardings around the stadium when constructed.

In the case of a sports arena or football stadium the area of the base bounded by the tiered assemblies of blocks may be covered by a thin flat panel which may be adhesively backed so that it can be stuck to the base to which the blocks are secured (preferably using which allows the panel to be peeled off after use and re-applied when required) or the panel may be provided with one or more pegs in its underside, by which it can be secured to the base by pushing the or each peg(s) into an opening in the base.

Where the panel is to extend right up to the front of the bottom layer of blocks the length of the cladding panel(s) (if provided) is preferably adjusted to accommodate the thickness of the panel.

Where a base is provided, sockets may be provided therein, into which the lower end of a block can be pushed. Thus if the cross section of the blocks is 10m x 10mm, the socket will also be (nominally) 10mm x 10mm, so that the cross section of the block is a tight fit therein. This allows elongate blocks (e.g. 5 or 10 elements long) to be upended and secured in place in a more rigid manner than relying on a peg engagement between its lower end and an opening in the base.

If each socket is formed by a wall which extends above the surface of the base and the base of the socket is coplanar therewith, the upended blocks will extend upwardly from the base by no more or less than if they were located on the base and secured in place by pegs.

The sockets may be permanently formed, as by moulding, in the surface of the base, or may comprise mouldings having a plurality of pegs protruding from their underside so that they can be securely fitted in place on the base before the block end is pushed therein.

The sockets may comprise square rings defining an appropriately sized opening to receive the end of a block, and the ring is dimensioned so that if positioned on the base with an opening in the base central of the square opening in the ring, pegs on the underside of the ring align with other openings in the base. In this way the alignment of the block when fitted in the ring relative to the base, will be the same as if it were secured in place by a peg.

Self-adhesive (preferably capable of multiple application and removal) labels, similar in size to postage stamps, or smaller, can be provided for sticking to the seats or the cladding panels. The stickers may be pre-printed to resemble advertisements, or simply coloured to allow coloured patterns to be provided on the tiered assemblies of blocks and/or seating fitted thereto, as is now commonly found in football and sports stadiums.

Roof panels may be pre-formed and adapted to be pegged to the upper layers of blocks in the tiered assemblies so as to extend inwardly over the tiered blocks and to a greater or lesser extent over the arena.

Although described as being constructed in a solid format the tiered assemblies may instead be formed from a lattice of elongate blocks joined by pegs in accordance with the invention, and cladding panels may be provided to simulate the tiered terraces and/or seating and the external walls of the terraces.

Likewise balconies can be constructed by positioning a second tiered assembly at least in part over a lower tiered assembly.

A kit of parts as aforesaid may therefore further comprise pre-formed roof panels adapted to be joined to blocks by means of pegs.

Pegs may be integrally formed to protrude from the roof panels, for pushing into openings in the blocks

A kit of parts to construct a model stadium may also comprise model scoreboards and/or press boxes and/or executive boxes and/or entrance tunnels and/or directors boxes and/or TV cameras and/or camera boxes and/or floodlights and/or goals and/or flag poles and flags and/or fencin, and/ot sliding roof sections, each adapted to be fitted to the base or the tiered blocks or cladding attached thereto, by means of pegs or by self adhesive tabs.

Scoreboards and/or floodlights when provided may be electrically operable.

The base or a panel for attachment to a base for use in constructing a model stadium may be printed or otherwise marked to depict a pitch for playing football, cricket, rugby, American football, baseball or tennis, or to depict an arena for show jumping or athletics, which will be surrounded by blocks to form a stadium when the model is completed.

A kit of parts for constructing a model stadium may further comprise accessories comprising dug-outs and/or TV cameras on stands and/or players and/or railings and/or decorative roof rails.

A kit of parts for constructing a model stadium may include roof panels, formed in two or more parts so that one can slide relative to another, to form a canopy which either partially or completely covers the area of the model stadium.

The sliding may be effected manually or electric motors may be provided operated by current from a mains transformer or from batteries.

Where a model is required to have an apex roof, blocks may be constructed with appropriately inclined faces to allow sloping roofs to be constructed and a ridge formed by appropriate blocks of generally triangular section, all adapted to be joined in accordance with the invention.

A miniature tannoy system also may be provided connected to a small PA amplifier and microphone or tape or CD player or digital storage device having recorded announcements, music, singing and/or the crowd noise typical of a stadium such as a football or rugby or cricket match.

Where the arena is to represent a swimming pool, the base may be cut away in the central area and a shallow watertight tray provided for insertion therein, for filling with water, and model diving boards and the like may be provided for fitting to the base by pegs around the tray forming the pool.

If a depth of water is required, necessitating a deeper tray, a commensurately thicker base may be employed, or a stand may be provided on which the normal (relatively thin) base is fitted, typically by means of pegs as aforesaid, so that the base is now raised by 30 or 40mmfrom the table top or other surface on which the model is supported, to allow for a commensurately deep "pool" tray to be accommodated.

A starter board may be provided with pre-drilled or otherwise formed holes to facilitate the laying out of blocks to create a particular structure.

A model structure constructed from a kit of parts as aforesaid may comprise a plurality of blocks fitted together using pegs to form a solid mass by packing blocks side by side and end to end with staggered bonding in the form of conventional brickwork.

Alternatively a model structure can be constructed from a kit of parts as aforesaid in which the blocks are joined to create a framework of struts defining corners and intermediate verticals and horizontals all joined by pegs as appropriate.

A model structure constructed from a kit of parts as aforesaid may comprise tiered assemblies of blocks arranged to form terraces around a central area in the form of a stadium, or open-air theatre.

A corner infill structure for use in a stadium or theatre may be constructed from blocks and pegs selected from a kit of parts as aforesaid in which five 5-element blocks are secured side by side to form a square, with the five-opening faces uppermost, four 4-element blocks are positioned side by side over four of the 5-element blocks with their three-opening face uppermost, so that the three openings align with the central three openings of the five openings below, three 3-element blocks are positioned side by side over three of the 4-element blocks with their three openings uppermost, two 2-element blocks are positioned side by side over two of the 3-element blocks with the single opening face uppermost, and one single element (basic) cube block is positioned centrally over one of the 2-element blocks with its single opening aligned with the single opening in the 2-element block therebelow.

In such a corner infill structure the blocks may be pinned by long pegs pushed through from top to bottom of the assembly, or by shorter pegs between at least two layers of blocks.

In a corner infill structure as aforesaid the side face of the last block in each layer may be aligned with the corresponding side face of the block below, and the opposite side face of the first block in each layer may be stepped back from the corresponding face of the block below by the width of the block, thereby creating a tiered face such as is found on the sloping face of a pyramid, with the step size between the ends of the blocks in each successive layer being equal to one half of the width of the blocks.

The invention also lies in a building block element for a kit of parts forming a construction toy as aforesaid each of which blocks corresponds to a whole number multiple K of a basic cube shape (where K is equal to or greater than 2) so that the length dimension of the block is equal to K times the edge length of the basic cube shape and the cross-section of the block is square and corresponds to the square face of the cube, and each face of the block includes at least one opening for receiving a peg characterised in that in one of its side faces there are K equally spaced apart peg receiving openings and in an adjoining side face there are (K-1) equally spaced apart similar peg receiving openings.

In such a building element the openings may be blocked at a predetermined depth so that a peg can be pushed into every opening in a block without interfering with any other pegs already introduced therein.

In such a building element the openings in the side and end faces are preferably all the same size so that the pegs for joining blocks end to end or side face to side face can also all be the same size.

A building element as aforesaid may have one opening in the centre of one face and two openings in an adjoining face.

A building element as aforesaid may have two openings in one face and three on an adjoining face.

A building element as aforesaid may have three openings in one face and four in an adjoining face.

A building element as aforesaid may be formed from a plastics material by moulding, preferably by injection moulding.

A building element as aforesaid may be formed with at least one side face of the block left open, and a panel is removably fitted to close the opening in each open side face of a block.

In a building element as aforesaid one end face of the block may be inclined to some of the sides so that the block comprises a solid trapezium.

Both ends may be so inclined, and preferably both end faces are inclined by the same amount so as to form a regular solid trapezium.

The acute angle between the or each end face and one of the parallel sides may for example be 75°, 67.5°, 60° or 45°.

A building element for use as a corner infill block may be formed from a central section which corresponds to a K-element rectilinear block whose end faces are perpendicular to its side faces, and two similar end sections which are integrally formed with the central section and extend at equally inclined angles to the length dimension of the central section to form a composite block, wherein each of the end sections is constructed as a regular solid triangle or regular solid trapezium whose end faces are inclined to each other or to the length dimension thereof by 11.25° of 22.5° so that the two end faces of the composite block are mutually inclined and subtend an angle of 45° or 90° respectively.

A tiered corner structure can be constructed using a plurality of such composite blocks in which the upper block in each layer is displaced by one block width from that in an adjoining layer with the layers progressively increasing in height by one block height to form the tiers.

A kit of parts as aforesaid preferably includes a plurality of building elements as described hitherto.

Such a building element may have one end face differently coloured from the other.

Likewise or instead side faces of each block may be differently coloured one from another and/or from the end faces.

For example one or more faces of each of the blocks is/are colour coded to indicate a specific function the block is designed to perform.

Side faces of blocks having an even number of openings may be one colour and side faces having an odd number of openings may be another colour.

The colouring of one or more faces of a block may involve colouring the whole of the or each face, or only a part of the or each face, or involve colouring only around the entrance to, or the interior of the opening or openings in the or each face.

A building element as aforesaid may be constructed of clear plastics material to resemble a window.

Whilst it is envisaged that the blocks will normally be small in size (typically 1cm x 1cm square cross section and of 2cm, 3cm, 4cm and 5cm in length – in the case of rectilinear blocks), the invention is not limited to small size blocks. If desired blocks which are five or ten times those typical dimensions may be provided, with appropriately larger size openings for appropriately larger cross section pegs, etc., to enable structures and models to be constructed outside in a garden or parkland setting.

The invention will now be described by way of example with reference to the accompanying drawings in which:-

Fig 1 is an elevation of one face of a single unit building block,

Fig 1A is a perspective view of a pin for joining clocks together and to a baseboard,

Fig 2 is a plan view of the block of Fig 1,

Fig 3 is a perspective view of the block of Figs 1 and 2,

Figs 4-6 are similar views of a 2 unit block,

Figs 5-9 are similar views of a 3 unit block,

Fig 10 is an elevation of a 4 unit block,

Fig 11 is an end view of the 4 unit block,

Fig 12 is a plan view of the 4 unit block,

Fig 13 is a view of the opposite end of the 4 unit block,

Fig 14 is a perspective view of the block of Figs 11-13

Figs 15-19 are similar views of a 5 unit block,

Fig 20A is a plan view showing how differently sized blocks can be stacked to form the tiered terraces of a model stadium and shows in particular how two arrangements of blocks can be fitted between the ends of two runs of terraces forming one side and one end of the stadium seating, to form a 90° corner infill,

Fig 20B is a cross section view of the stacked blocks on the section line BB of Fig 20A,

Figs 21A-21C illustrate three differently angled rod elements which can be fitted into holes in the upper face of the uppermost tier of blocks of an arrangement such as shown in Fig 20A, to provide supports for a cantilevered canopy roof structure over the seating,

Fig 21D is a view of the element shown in Fig 21B in the direction of arrow D in Fig 21B,

Fig 21E is a view of the element shown in Fig 21B in the direction of arrow E in Fig 21B,

Figs 21F and 21G illustrate straight and bent rods for extending elements such as shown in Figs 21A etc.,

Fig 21H illustrates a cylindrical sleeve by which rods such as shown in Figs 21F and 21G can be joined and/or modified for fitting in holes in blocks in the same way as the limbs 98, 100 etc.,

Fig 22 is a front elevation of a row of 4 joined seats which can be fitted to a 4 unit block,

Fig 23 is an end view of the joined row of 4 seats of Fig 22,

Fig 24 is a perspective view of a players entrance/exit tunnel adapted to be fitted to the lower tiers of block seating, such as shown in Fig 20A,

Fig 25 is a perspective view of an executive box which likewise can be fitted to tiered blocks such as shown in Fig 20A,

Fig 26 is a perspective view of a radio and TV commentators box, adapted in a similar way to be fitted to tiered blocks such as shown in Fig 20A,

Fig 27 is a perspective view of a Directors' seating array, forming a Directors' Box, adapted to be fitted to tiered blocks such as shown in Fig 20A,

Fig 28 is an elevation view of a fencing element which can be fitted into holes in a base-plate on which tiered blocks are fitted as shown in Fig 20A, to segregate the pitch or track area from the tiered blocks containing the seating,

Fig 29 illustrates a full-span roof support which is adapted to be fitted at opposite ends into holes in the uppermost tier of blocks,

Fig 30 illustrates a bank of flood lights which can be mounted on the uppermost tier of blocks,

Fig 31 illustrates an alternative array of lights which can be mounted on the uppermost tier of blocks,

Fig 32 illustrates a free-standing bank of floodlights for mounting on a base-board, on which the tiers of blocks are also arranged to form the model stadium,

Fig 33 is a perspective view of another peg for joining blocks together and to a baseboard,

Fig 34 is a perspective view of a corner infill element to replace a plurality of separate differently sized blocks,

Fig 35A is a perspective view of an alternative type of block to allow for corners to be bridged,

Fig 35B is a perspective view of a further alternative type of block to allow for corners to be bridged,

Fig 35C shows how a plurality of blocks as shown in Fig 35B can be stacked to form two 45° quadrants to create a 90° infill, and

Fig 36 illustrates the printed upper surface of a baseboard having a matrix of holes therein by which blocks and fencing and other accessories can be fitted using pegs as shown in Fig 33.

In the drawings Figs 1 to 19 show differently sized blocks which are joined by pegs or pins 12 such as shown in Fig 1A.

The blocks are dimensioned so as to correspond to a whole number multiple of the basic cuboid block 10 of Fig 1. Thus block 14 of Figs 4-6 corresponds to two cuboid blocks 10 arranged side by side to produce a rectilinear block whose length is twice its end face length or breadth dimension. Likewise the block 16 of Figs 7-9 corresponds to three such cuboid blocks 10 arranged side by side, block 18 of Figs 10-14 corresponds to four cuboid blocks 10 arranged side by side, and block 20 of Figs 15-19 corresponds to five such blocks 10 arranged side by side.

Each of the side faces of the basic cuboid block is provided with a central circular hole, three of faces are shown in Fig 3 as containing holes 22, 24, 26.

The longer blocks have a single hole at each end as at 28 in Fig 6, 30 in Fig 9, 32 in Fig 14 and 34 in Fig 19. However the other rectangular faces do not all have the same number of holes. Instead each of one opposite pair of faces is provided with a line of symmetrically arranges holes corresponding in number to the number of cuboid elements which the block represents (e.g. two holes in the case of the two element block 14, three in the case of block 16 etc.), while the intervening two faces are each formed with one or more holes the number of which is one less than the larger number of holes in the first mentioned pair of faces. The hole or holes in the intervening faces is/are also symmetrically arranged on the face in a line where two or more holes are provided.

Thus in the case of Block 14 of Fig 6, the upper and lower faces have one hole (such as 36) while the two side faces (one of which is designated 15) have two holes (such as 38, 40).

Similarly the upper and lower faces of block 16 of Fig 9 have two holes (such as 42, 44) while the two side faces (one of which is designated as 17) each have three holes (such as 46, 48, 50).

The holes such as 26, 36, 38 etc. are all of the same cross-sectional shape, typically circular as shown, and have the same diameter. By providing a plurality of pegs such as 12 (see Fig 1A), blocks can be joined by pushing one end of a peg 12 into a hole in one block (e.g. 26 in block 10) and pushing the protruding end of the peg into a hole of another block (such as 36 in a block such as 14), and squeezing the two blocks so that the two faces come into contact.

By making the peg 12 a push fit into each of the holes, once so joined the blocks will tend to remain so.

It is to be noted that by providing one less hole on two of the faces, a single cuboid block such as 10 can be fitted so as to overlie one half or the other of a face 15 of a block such as 14 by using either of holes 38 or 40 to receive the peg which is otherwise fitted in a hole such as 26 in the cuboid block 10. Alternatively the latter can be fitted centrally of the upper face 13 (or the corresponding lower face) of block 14 by fitting the peg 12 protruding from the block 10 into the single central hole 36 in the face of the block 14.

This facility allows an array of blocks to be created having a generally triangular profile when viewed from above or below or from one side or the other, whilst possessing a rectilinear shape for its remaining face. Such arrays can be used to infill the spaces between the end face of a stack of similar length blocks which have been arranged in layers with each layer above the one below having one less block therein, so as to form a wedge shape having orthogonal rectilinear faces, parallel generally triangular end faces and a stepped or tiered surface corresponding to the hypotenuse of the triangle.

Such an array is shown in Fig 20B and is designated by reference numeral 52. Thus the uppermost layer has only one block 54, the next layer down two blocks 56, 58 and the next down three blocks 60, 62 and 64 and so on. Not all the holes in the opposed faces of the blocks needed to be pegged, and the dotted lines at 66, 68 etc., illustrate how a

reduced number of pegs can be used to join together the 15 blocks making up the assembly 52.

The assembly 52 is shown in plan view in Fig 20A as forming part of a line of similar assemblies two other of which are denoted by 70 and 72 and part of a third by 74. Pegs (such as 76, 78) can just be seen bridging between adjacent end faces of the assembled blocks.

A second line of such assemblies 80, 82 etc. is arranged at right angles to the first line of assemblies 52, 70, 72, 74 etc., and the generally gap between the end face 84 of the first line and the perpendicular end face 86 of the second line of assemblies is in-filled by two similar 45° triangular assemblies 89, 90 made up of increasingly smaller sized blocks measured from back to front, as shown.

Each assembly 52, 70, 72, 74, 82, 88 and 90 will have the same cross section shape as that shown at 52 in Fig 20B, and can be thought of as being made up of columns and layers. Thus in Fig 20B the columns are designated A-E and the layers I-V respectively.

Whereas in assemblies such as 52 all the blocks making up all the columns and layers will normally be all the same length, in an assembly such as 88 or 90 the blocks in column A will all be 5 units long, those in column B will all be 5 units long, those in column C all 3 units long, those in column D all 2 units long, and the single block making up column E in layer I is a single unit cuboid block such as shown in Fig 3.

Aligned assemblies such as 52, 70 etc. can be arranged to define the tiered terraces of one longer side of a model stadium. A similar array opposite and parallel to the first, defines the other longer side, and two parallel opposed arrays such as 80, 82 etc., each at right angles to the adjoining longer arrays, will form the two shorter ends of the tiered terraces making up the stadium. Each of the four empty corners can be infilled by two tiered 45° assemblies such as 88, 90 to complete the terracing.

There is of course no limit in theory to the number of terraces which can be created along each side, but since the corners will need to be infilled, longer blocks will be needed if so. Thus if there are to be 10 tiered steps, blocks will be needed of 6, 7, 8, 9 and 10 units of length (one unit corresponding to the cuboid block 10 in Fig 1). In this event the runs of assemblies making up the sides and ends of the stadium can be formed using stacks of longer blocks if desired, thereby reducing the number of different sections making up each side or end. Thus as shown, the assemblies 52 and 70 are shown made up of 4 unit length blocks, and if 8 unit length blocks are available, the two assemblies could be replaced by a single assembly of 8 unit length blocks.

In order to provide a roof or canopy to the model, roof supports are required and different types are shown in Figs 21A-21C. Each comprises a bent wire- or rod-like element 92, 94 or 96 with two similar enlarged ends such as 98, 100 (see Fig 21A) each of whose cross section corresponds to that of the peg 12 of Fig 1A. This enables it to be fitted into one of the holes in the uppermost layer of blocks (V in Fig 20B) in each of the assemblies such as 52, 70 – 88, 90 etc. in Fig 20A, with one limb (such as 99 in the case of support 92 of Fig 21A) extending inwardly over the tiered blocks. Others can be fitted so as to extend outwardly of the assemblies 72, 70 etc., if a canopy over the outside of the stadium is required.

If the enlarged ends 98, 100 are formed from a plastics material and are cylindrical so that the interior is a push fit over the rod and the exterior is a push fit within a hole (such as for example 42 or 44 in block 16 of Fig 9) extensions to the supports shown in Figs 21A-21C can be formed by pushing straight or bent lengths of rod (such as shown at 95 and 97 in Fig 21F and 21G) of similar gauge, into the open ends of the cylindrical ends (such as 89 in Fig 21A) so as either to extend completely across from one side (or end) of the stadium to the other, or simply to extend the distance which the inwardly (or outwardly) directed limb such as 99 (in the case of supports such as 92) extends over the tiered blocks therebelow. Fig 21D shows the support 94 in the direction of arrow D (in Fig 21B while Fig 21E shows it in the direction of arrow E in Fig 21B. Thus Fig 21E shows the cylindrical configuration of the enlarged end 106 of support 94, and reveals the circular

hole 108 within the end face of enlarged end 106, into which another length of rod can be push fitted.

As shown by the broken lines in Figs 21F and 21G the length of the rod can be any convenient length, and can be extended using joining sleeves such as 110 in Fig 21H, each of which corresponds to one of the cylindrical ends such as 98 of Fig 21A.

Model seats can be fitted to the terraces. One example is shown in Figs 22 and 23. Individual seats may be provided each corresponding to 112 (or 114 etc.) of Fig 22 , but more preferably linear arrays of seats are provided (as shown in Fig 22), where a line of 4 seats (112 to 118) is shown joined by a common base 120. Pegs 122, 124 can extend as shown from the base 120 (or from the base of each seat if individual seats are provided), the spacing corresponding to the spacing between holes in a correspondingly sized block. Alternatively the pegs may extend from the rear of the seats such as shown in dotted outline at 126 in Fig 23.

The seats may be differently coloured and by providing a large number of differently coloured seats (and/or different lengths of seating ranging from simple individual seats to lines of four or more), so patterns can be created by selecting and positioning differently coloured seats (or seat arrays) on the terraces of blocks, so as to form emblems or patterns, or letters making up words.

The stadium can be made more lifelike by adding accessories such as a players' (or competitors') entrance tunnel 128 as shown in Fig 24, an executives' box 130 as shown in Fig 25, a directors' box containing special seating (which may for example comprise a single matching array of seats) as shown at 132 in Fig 27, a Press Radio and TV commentators box as shown at 134 in Fig 26, and fencing or rails such as shown at 136 in Fig 28. In each case pegs such as 138, 140, 142 and 144 protrude downwardly from the underside of each item for pushing into holes in the blocks making up the terraces, or into holes in a baseboard (see Fig 36). Thus where the item is to be fitted over a number of tiers of a terrace, the underside of the item is stepped as shown at 146 in Fig 24.

Where a roof is to span from one side of a stadium to the other, curved struts such as 148 in Fig 29 may be provided each being provided with a foot 150, 52 having a peg 154, 156 protruding downwardly therefrom for engagement in a hole in a block in or fitted to the uppermost tier of the terrace.

Where a vertical gap is to exist between the terraces and the underside of the roof span (to give headroom above the highest tier) the pegs 154, 156 may be formed with circular central openings in which short straight rods can be fitted the other ends of which can be fitted into sleeves (such as 110 in Fig 21H) to allow them to be push fitted into the holes in the uppermost tier of blocks.

Alternatively blocks can for example be mounted end-on at intervals around the uppermost tier of blocks, using pegs (such as 12 in Fig 1A) and the pegs 154, 156 can be push fitted into openings in the blocks – in the upper end faces of the blocks if the latter are located end-on.

Further accessories are illustrated in Figs 30-32 each adapted by pegs (such as 158, 160 in Fig 30) to be push fitted into blocks or into a baseboard such as shown in Fig 36.

An alternative corner infill element is shown in Fig 34 in which a predetermined number of terrace tiers are moulded as a single unit 162, for example from rigid plastics material. The unit is formed with plane flat side faces one of which is denoted by reference numeral 164.

By making the included angle between the two side faces such as 164 equal to 45°, so two such units will just fit snugly between the two perpendicular end faces of two lines of stacked terraced blocks (such as 84 and 86 in Fig 20A). Holes such as 166, 168 etc. are provided in the mouldings to allow them to be fitted together and to the end faces of adjoining stacks of blocks using pegs (such as shown at 12 in Fig 1A).

Additionally the horizontal and vertical faces of the tiered face are also provided with similarly sized and spaced apart holes to allow seating units to be fitted thereto. Preferably any such seating units are also curved and are of different lengths to accommodate the different arcuate extent of the different tiers.

The pegs may be smooth as shown in Fig 1A or may be ribbed or grooved as shown in the modified peg 169 in Fig 33.

As an alternative to the one-piece corner moulding of Fig 34, more accurately fitting corner units may be constructed using a plurality of differently sized angled blocks of the type shown at 170 in Fig 35. Thus a range of sizes may be provided ranging from a block whose inner end-face to end-face extent is the same as a single unit block (such as 10 in Fig 3) but whose outer end-face to end-face extent corresponds to a two unit block (such as 14 in Fig 6), up to the largest multiple unit block size. By stacking them in a similar manner as shown in Fig 20B a wedge shaped assembly will be formed whose end faces are plane and flat (as is 164 in Fig 34) and whose front face is terraced, each tier of the terrace corresponding to the upper and front face of a block similar to that of Fig 35 but varying in arcuate extent from the bottom of the stack to the top.

If the included angle between the end face 174, 176 is 45° two such assembles will snugly fit in the 90° corner between side and end stacks as is Fig 20A.

Fig 35B illustrates a more preferred form of corner block 178 in which the central region 180 is a 2-element rectilinear block and the two end sections are either triangular wedges (such as 182, 184 in Fig 35C) or small trapezoidal wedges without openings (such as 186, 188 in Fig 35C) or apertured regular trapezoidal blocks (such as 190, 192 in Fig 35B) which may be integrally injection moulded with or stuck or otherwise joined to, the central region 180.

Fig 35C shows how two arrays each made up of 12 progressively larger such blocks (194, 196) can form two 45° quadrants which co-operate to form a 90° corner infill to a model

tiered stadium. The corner block 178 of Fig 35B corresponds to block 8 in each of the 12 block arrays.

The baseboard shown in Fig 36 is shown to a very reduced scale relative to the blocks and accessories shown in the other Figures in the drawings.

Although not shown the baseboard is typically 10mm thick and includes a matrix of holes in its upper surface into which pegs (such as 12 in Fig 1A or 169 in Fig 33) can be push-fitted to allow blocks and accessories to be secured to the board.

As shown the board may be pre-printed to denote a football pitch in the centre and to denote where the stacks of blocks are to be located to form the terraces around the pitch.

The other side of the baseboard (not shown) may be similarly formed with a matrix of holes for receiving pegs, and may be plain or pre-printed with a different pattern in the central area such as a track for athletics or running events, a rugby pitch, a baseball pitch, an American Football pitch or the like.

Alternatively the central area can be covered by a pre-printed sheet of paper or plastics sheet or the like, different sheets denoting a different pitch or layout.